human polymorphic epithelial mucin, which core protein is specifically bound by monoclonal antibody SM-3.

REMARKS

Claims 3 and 8 have been amended to make them dependent on claim 1, so that they can be rejoined with claim 1 in accordance with MPEP §821.04.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made".

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Claims 3 and 8 have been amended as follows:

3 (amended). A method of immunizing a subject against a disease characterized by the immunological presentation of an epitope specifically bound by monoclonal antibody SM-3, which comprises administering to the subject a vector according to claim 1 comprising a promoter sequence operably linked to a coding sequence, the latter encoding an antigen, under conditions in which the vector directs expression of said antigen, which elicits an immune response which is protective against such disease,

said antigen being said [selected from the group consisting of

(a) an artificial antigen comprising (i) an antigenically active segment, at least five consecutive amino acids in length, of a tandem repeat sequence of the core protein of a human polymorphic epithelial mucin, which core protein is specifically bound, at the site of said segment, by monoclonal antibody SM-3, and (ii) a second amino acid sequence, the segment and the second amino acid sequence being linked, directly or indirectly, so as to form a non-naturally occurring antigen specifically bound, at the site of said segment, by monoclonal antibody SM-3,

(b) an antigenic fragment of the core protein of a human polymorphic epithelial mucin which comprises at least ten consecutive amino acids of a tandem repeat sequence of the core protein of a human polymorphic epithelial mucin, which core protein is specifically bound, at a site within said fragment, by monoclonal antibody SM-3, said fragment also being specifically bound by SM-3, and

(c) a] polypeptide comprising the core protein of a human polymorphic epithelial mucin, which core protein is specifically bound by monoclonal antibody SM-3.

8 (amended). A method of expressing an SM-3 reactive antigen in a host cell which comprises introducing into a suitable host cell a vector according to claim 1 comprising a promoter sequence operably linked to a coding sequence, the latter encoding an antigen, and subjecting the cell to conditions in which the vector directs expression of said antigen, the antigen being said [selected from the group consisting of

(a) an artificial antigen comprising (i) an antigenically active segment, at least five consecutive amino acids in length, of a tandem repeat sequence of the core protein of a human polymorphic epithelial mucin, which core protein is specifically bound, at the site of said segment, by monoclonal antibody SM-3, and (ii) a second amino acid sequence, the segment and the second amino acid sequence being linked, directly or indirectly, so as to form a non-naturally occurring antigen specifically bound, at the site of said segment, by monoclonal antibody SM-3,

(b) an antigenic fragment of the core protein of a human polymorphic epithelial mucin which comprises at least ten consecutive amino acids of a tandem repeat sequence of the core protein of a human polymorphic epithelial mucin, which core protein is specifically bound, at a site within said fragment, by monoclonal antibody SM-3, said fragment also being specifically bound by SM-3, and

(c) a] polypeptide comprising the core protein of a human po3lymorphic epithelial mucin, which core protein is specifically bound by monoclonal antibody SM-3.